

CLAIMS

1. A printer for receiving document data from a computer system and printing an interface onto a surface, the interface being at least partially based on the document data,
5 the document data including identity data indicative of at least one identity, the identity being associated with a region of the interface, the interface including coded data, the printer including:

a coded data generator configured to generate the coded data based at least partially on the identity data; and

10 a printing mechanism for printing the interface onto the surface.

2. A printer according to claim 1, wherein the interface includes visible information in addition to the coded data, the visible information being based at least partially on the response data.

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3. A printer according to claim 1, wherein the coded data is also indicative of at least one reference point of the region.

4. A printer according to claim 3, wherein the at least one reference point is
20 determined on the basis of a coded data layout.

5. A printer according to claim 4, wherein the printer is configured to receive the coded data layout from the computer system.

25 6. A printer according to claim 5, further including storage means for storing a plurality of the coded data layouts, the printer being configured to:

receive, from the computer system, layout selection information indicative of one of the

coded data layouts; and

use the layout selection information to select one of the stored coded layouts for use in determining the at least one reference point.

5 7. A printer according to claim 1, wherein the coded data is not substantially visible to an average unaided human eye under daylight or ambient lighting conditions.

8. A printer according to any one of claims 1 to 6, wherein the coded data includes at least one tag, each tag being indicative of the identity of the region.

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9. A printer according to claim 8, wherein the coded data includes a plurality of the tags, the coded data generator being configured to ascertain a position of each tag prior to printing, the respective positions being determined on the basis of a coded data layout.

15 10. A printer according to claim 9, wherein the coded data generator is configured to receive the coded data layout from the computer device prior to printing the coded data.

11. A printer according to claim 5, further including storage means for storing a plurality of the coded data layouts, the coded data generator being configured to:

20 receive, from the computer device, layout selection information indicative of one of the coded data layouts; and

generate the coded data based on the layout selection information.

12. A printer according to claim 8, wherein each of the tags includes:

25 first identity data defining a relative position of that tag; and

second identity data identifying the region.

13. A printer according to any one of claims 1 to 6, 11 or 12, the printer being configured to print the interface onto the surface on demand.
14. A printer according to any one of claims 1 to 6, 11 or 12, wherein the interface is printed over a plurality of the pages.
15. A printer according to any one of claims 1 to 6, wherein the surface is defined by a substrate.
16. A printer according to claim 15, wherein the substrate is laminar.
17. A printer according to claim 8, wherein the tags are disposed at predetermined positions on the surface.
18. A printer according to claim 17, wherein the tags are disposed on the surface within a tessellated pattern comprising a plurality of tiles, each of the tiles containing a plurality of the tags.
19. A printer according to claim 18, wherein the tiles interlock with each other to substantially cover the surface.
20. A printer according to claim 19, wherein the tiles are all of a similar shape.
21. A printer according to claim 20, wherein the tiles are triangular, square, rectangular or hexagonal.
22. A printer according to claim 18, wherein the tags are disposed stochastically

within each of the tiles.

23. A printer according to claim 8, wherein each of the tags includes at least one common feature in addition to the second identity data.

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24. A printer according to claim 23, wherein at least one common feature is configured to assist finding and/or recognition of the tags by associated tag reading apparatus.

10 25. A printer according to claim 23, wherein the at least one common feature is represented in a format incorporating redundancy of information.

26. A printer according to claim 25, wherein the at least one common feature is rotationally symmetric so as to be rotationally invariant.

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27. A printer according to claim 25, wherein the at least one common feature is ring-shaped.

20 28. A printer according to claim 8, wherein each of the tags includes at least one orientation feature for enabling a rotational orientation of the tag to be ascertained by associated tag reading apparatus.

29. A printer according to claim 28, wherein the at least one orientation feature is represented in a format incorporating redundancy of information.

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30. A printer according to claim 29, wherein the at least one orientation feature is rotationally asymmetric.

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31. A printer according to claim 29, wherein the at least one orientation feature is skewed along its major axis.
- 5 32. A printer according to claim 8, wherein each of the tags includes at least one perspective feature for enabling a perspective distortion of the tag to be ascertained by associated tag reading apparatus.
33. A printer according to claim 32, wherein the at least one perspective feature
10 includes at least four sub-features which are not coincident.
34. A printer according to claim 12, wherein each tag includes a plurality of tag elements, the first and second identity data each being defined by a plurality of the elements.
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35. A printer according to claim 34, wherein the tag elements are disposed in one or more arcuate bands around a central region of each tag.
36. A printer according to claim 35, wherein there are a plurality of the arcuate bands
20 disposed concentrically with respect to each other.
37. A printer according to claim 36, wherein each element takes the form of a dot having a plurality of possible values.
- 25 38. A printer according to claim 37, wherein the number of possible values is two.
39. A printer according to claim 37, wherein when representing one of the possible

values, the tag elements absorb, reflect or fluoresce electromagnetic radiation of a predetermined wavelength or range of wavelengths to a predetermined greater or lesser extent than the surface.

5 40. A printer according to claim 37, wherein the possible values of the tag elements are defined by different relative absorption, reflection or fluorescence of electromagnetic radiation of a predetermined wavelength or range of wavelengths.

10 41. A printer according to claim 37, wherein the tags are slightly visible to an average unaided human eye under daylight or ambient lighting conditions.

42. A printer according to claim 34, wherein the tags are visible to an average unaided human eye under daylight or ambient lighting conditions.

15 43. A printer according to claim 12, wherein the first identity data is represented in a format incorporating redundancy of information.

44. A printer according to claim 12, wherein the second identity data is represented in a format incorporating redundancy of information.

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45. A printer according to claim 44, wherein the printer is an ink printer.

46. A printer according to claim 45, wherein the tags are printed using ink that is absorbent or reflective in the ultraviolet spectrum or the infrared spectrum.

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47. A printer according to claim 46, wherein the printer includes a separate ink channel for printing the tags.

48. A printer according to claim 45, wherein the printer is configured to print the coded data and additional information substantially simultaneously onto the surface.

5 49. A printer according to claim 48, wherein the additional information is printed onto the surface using colored or monochrome inks.

50. A printer according to claim 49, wherein the additional information is printed onto the surface using one of the following combinations of colored inks:

10 CMY;
CMYK;
CMYRGB; and
spot color.

15 51. A printer according to claim 8, wherein at least a plurality of the tags are disposed stochastically upon the surface.

52. A printer according to claim 9, wherein the tags are disposed in a regular array on the surface, in accordance with the coded layout data.

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53. A printer according to claim 52, wherein the array is triangular.

54. A printer according to claim 52, wherein the array is rectangular.

25 55. A printer according to claim 52, wherein the tags are tiled over the surface.

56. A printer according to claim 14, further including a binding mechanism for binding the pages into a bound document.

57. A printer according to claim 48, wherein the surface is defined by a face of a page, the printer further including dual printing mechanisms for printing opposite faces of the page simultaneously.

58. A printer according to any one of claims 1 to 6, 11 or 12, wherein the printing mechanism includes an inkjet printhead for printing ink onto the surface.

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59. A printer according to claim 58, wherein the printhead is a drop on demand inkjet printhead.

60. A printer according to claim 59, wherein the printhead is a pagewidth printhead.

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61. A printer according to claim 60 wherein the printhead is configured to deliver a plurality of ink colors onto the surface with one printing pass.

62. A printer according to claim 60, wherein the printhead includes electro-thermal bend actuators to eject the ink onto the surface.

63. A printer according to claim 62, wherein the printer includes two sets of printheads, configured to print opposite surfaces of a page substantially simultaneously.

64. A printer according to claim 62, including a forced filtered air delivery mechanism for keeping nozzles of the printhead relatively free of paper dust.

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